ThermalVision™ PRO PC Software Instruction Manual

Contents

1. Installing the ThermalVision™ PRO series software onto a PC.

To install the ThermalVision™ PRO software onto a PC:
1.   Insert the CD into the PC.
2.   Use Windows Explorer to view the files on the CD.
3.   Open and run the file "ThermalVision PRO PC setup.exe".
4.   This will install the software on to the PC.

Once the software has successfully been installed an icon appears on the PC Desktop.

2. Transferring saved images from the 61-846 or 61-848 camera to the PC.

In the camera the images are saved on a micro-SD card and are in folders. A new folder is created every time the camera is switched on. The folder also contains the voice message file if it is recorded. Each saved image will therefore consist of two or three files.
   a.   A BMP file containing the thermal and visual image.
   b.   An IR5 file containing the temperature data.
   c.   A WAV file if a voice recording was made when the image was saved.

Note: *Do not use the Microsoft Scanner and Camera Wizard to download images. Use Windows Explorer.*

There are two ways to transfer images to the PC.

2.1. Direct from Camera
   a) Connect the camera to the PC via the USB cable.
   b) Use Windows Explorer and filing system to locate the micro-SD card in the camera. This will normally be shown as a removable disk.
   c) Copy the complete folders from the micro-SD card on to the PC. Note that there are at least two files for each image, which must be kept together.

2.2. From Micro-SD Card

   a) Take the micro-SD card out of the camera and insert into a suitable card reader.
   b) Connect the card reader to the PC.
   c) Use Windows Explorer to locate the files with the images on the micro-SD card and copy the complete folders on to the PC. Note that there are at least two files for each image, which must be kept together.

3. Using the ThermalVision™ PRO series software.

The PC software has two main parts.
1.   Analysis Mode – Allows the user to analyse the image and also alter the settings for how the image is displayed.
2.   Report Writer Mode - Allows the user to create a report of the thermal images for records and administration and operational use.
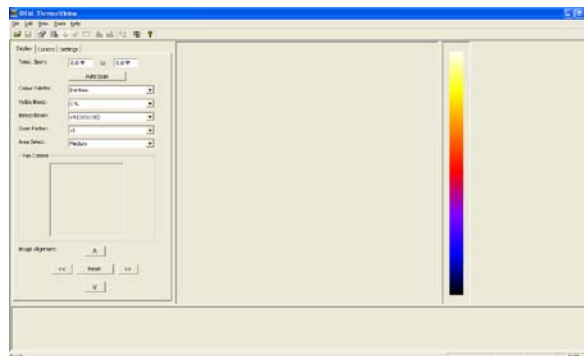
3.1. Starting the Software.

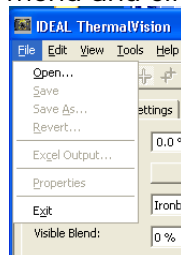Double Click on the ThermalVision™ PRO series icon to start the software   .

The following window will appear.
Note it may be necessary to maximise the window.

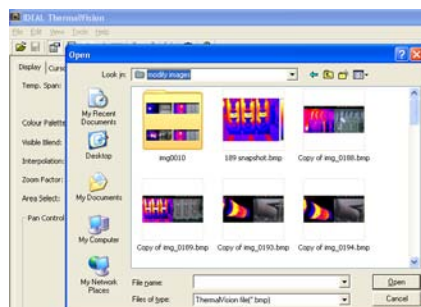

3.2. Opening an image.

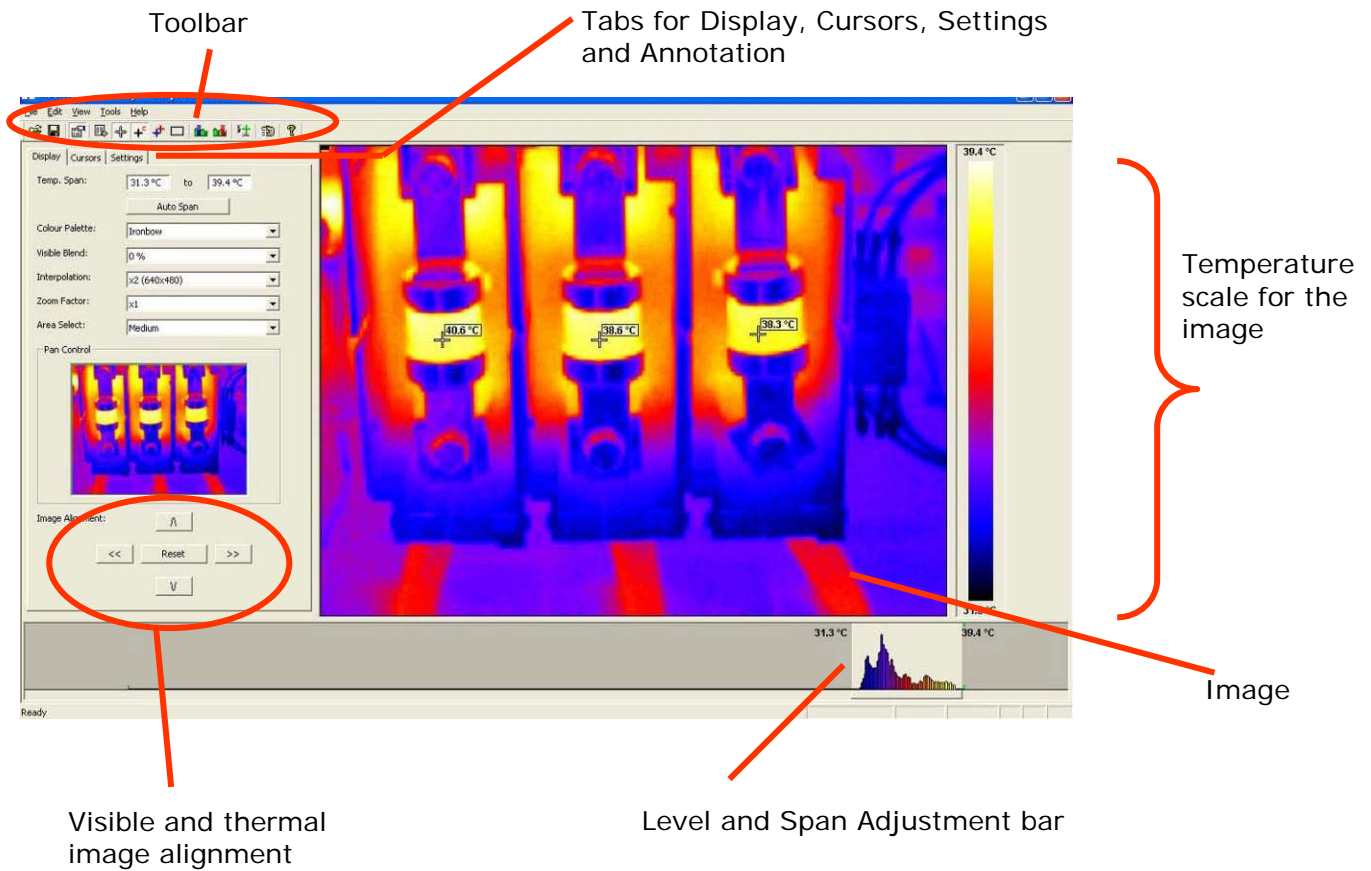Click on the drop down File menu and click on "Open".

Use the Windows Explorer to locate the folder where the images are saved. If viewing images directly from the camera this will be shown as a removable disk.

Once the folder is located, double click on the image to be loaded.

Opening Screen shot.

The window format shown below should be displayed. It may be necessary to maximise the window in order to see all the features.

Toolbar

Tabs for Display, Cursors, Settings and Annotation

Temperature scale for the image

Image

Visible and thermal image alignment

Level and Span Adjustment bar

Image Description

The thermal image is seen on the right hand side of the screen. A temperature scale relating to the colours is displayed to the right of the image. An adjustable span, also showing a histogram of temperatures in the image is shown at the bottom of the screen. There is a drop down menu bar and an icon toolbar. A set of Tabs is on the left hand side of the image. On start up the display tab is shown.

3.3. Analysis Tools

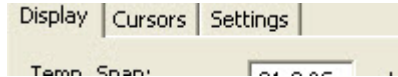To analyse an image and change its presentation the tools available are:
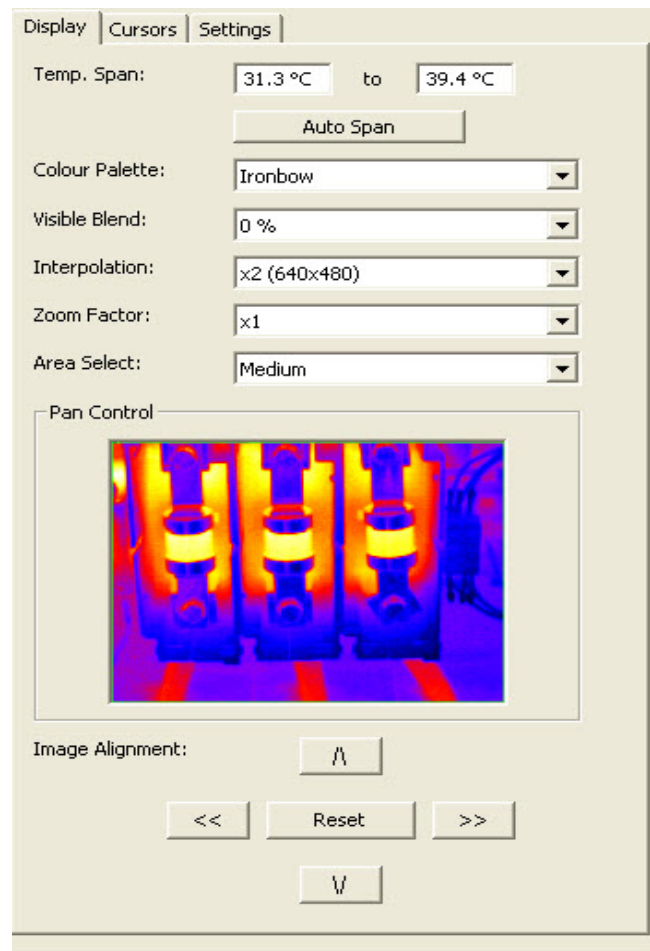
1. Drop down menus.

   File   Edit   View   Tools   Help

2. Icon Toolbar.

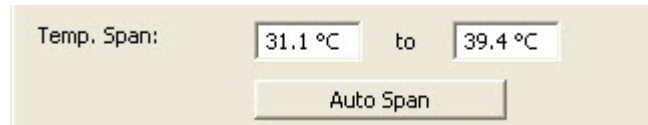3. Tabs.

   Display | Cursors | Settings
   Temp. Span:

TABS

Display Tab

1. Temperature span allows the image display span values to be altered manually by clicking on the Figures in the boxes and changing them. Auto span sets the temperature span values based on the temperature values in the image.

The temperature span can also be adjusted using a mouse in the level and span adjustment bar (see below). To adjust span click on the dark grey and light grey border and drag. To adjust level click in the middle of the light grey area and move.


Level and span adjustment bar.
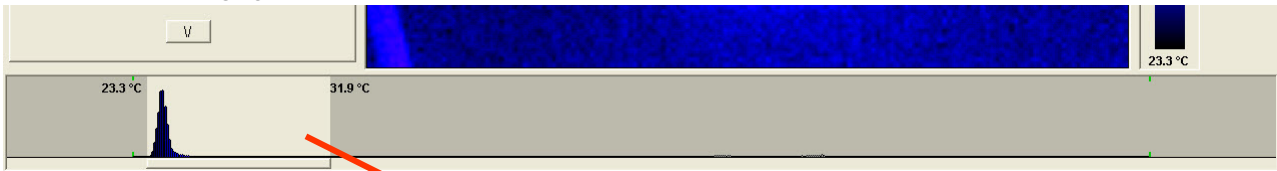
2. Colour palette. To change the colour palette, click on the arrow button.

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
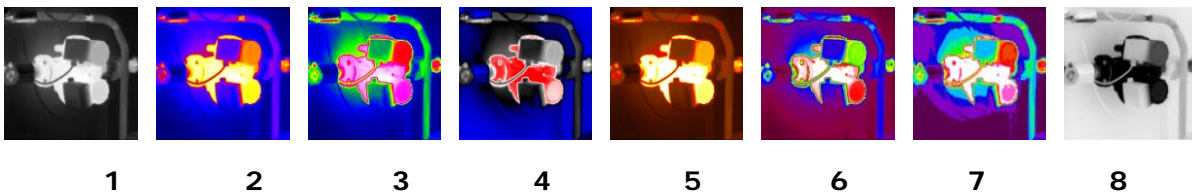
1. White Hot Mono.
2. Ironbow.
3. Rainbow.
4. Isotherm Style.

5. Hot Metal.
6. High Contrast.
7. 16 step Rainbow.
8. Black Hot Mono.

3. Visible blend. To change the visible/infrared ratio click on the arrow button.

0% Thermal.   50% Thermal 50% Visible   100% Visible.   Picture in picture
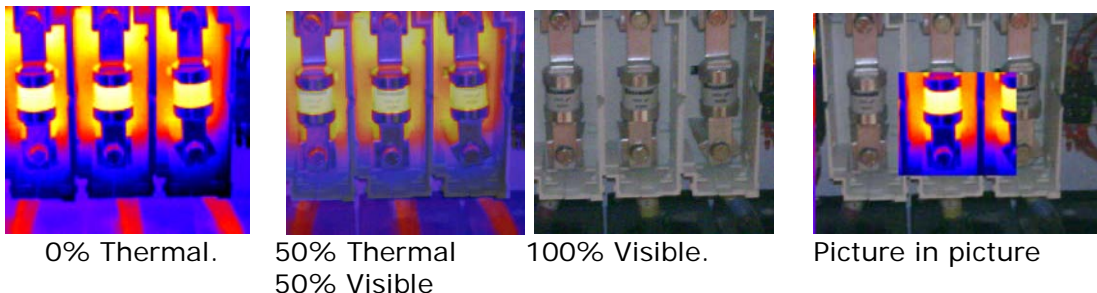
4. Interpolation. To change the interpolation click on the arrow button.
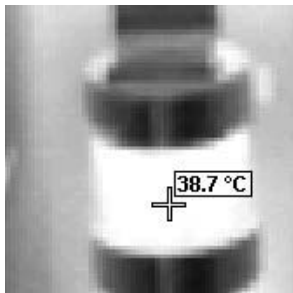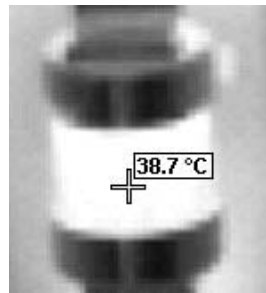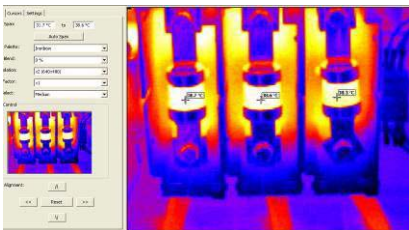

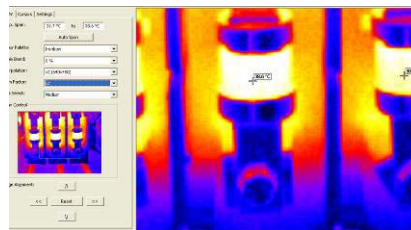x 1 (320X240)   x 2 (640 x 480)
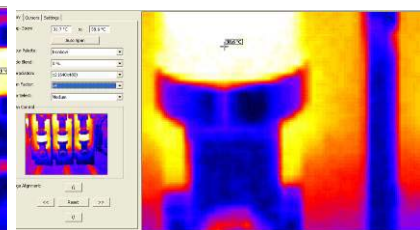
5. Zoom factor. To change the zoom setting click on the arrow button. The following four settings are available X1, X2, X3, X4 (examples of X1, X2 and X4 shown below).


x1 Zoom   X3 Zoom   X4 Zoom

When zoomed to x2 or more, the part of the image diplayed can be selected by means of the mouse in the Pan Control box.

6. Area Select. Use the arrow button to select a small, medium, or large area for measurement (see page 14).

7. Image alignment. This allows the vertical and horizontal alignment of the thermal and visible images. Clicking on the navigation arrows will move the visible image while the infrared image remains stationary. It is easiest to adjust with a 50% thermal and 50% visible image.
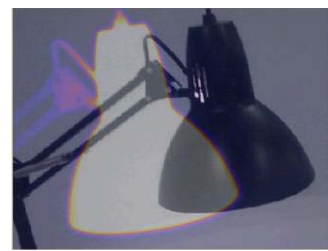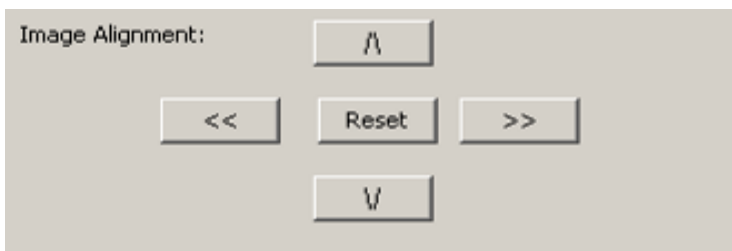
Note: Clicking on the reset button returns the alignment to the setting when the file was opened.

Cursors tab
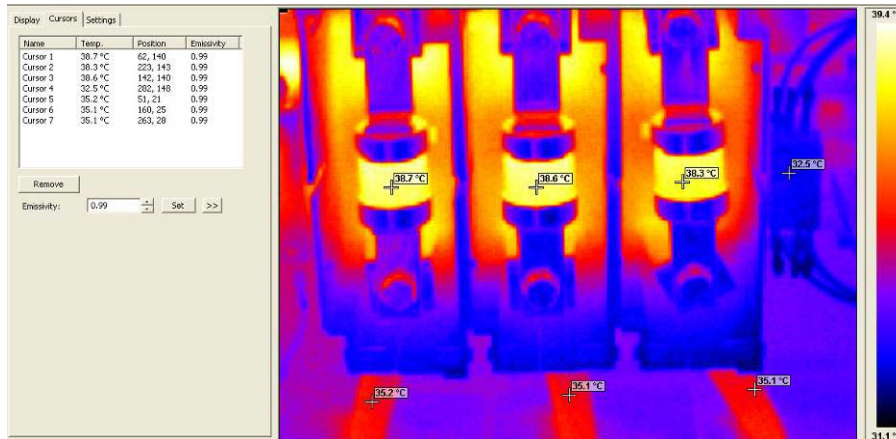
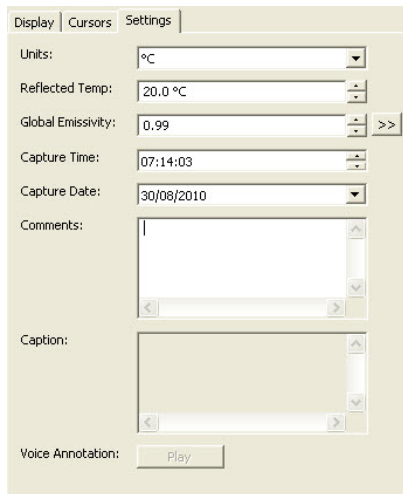Up to 10 cursors can be added to the display.

8. To add a cursor to the image, double click on the image on the screen.
    The cursor can be moved by the drag and drop method.
9. To remove cursors either double click on it or highlight the cursor in the box and click remove.

The list of cursors within the box shows:-

1. The temperature of the cursors.
2. The position of those cursors.
3. The emissivity value. This can be set individually.
    a. Select the cursor by clicking on its name in the table.
    b. Then either click on the double arrow on the side to call up the emissvity look up table.
    c. Or use the emissivity value box adjustment box and then click on the set button.


Emissivity Setting   Look up table
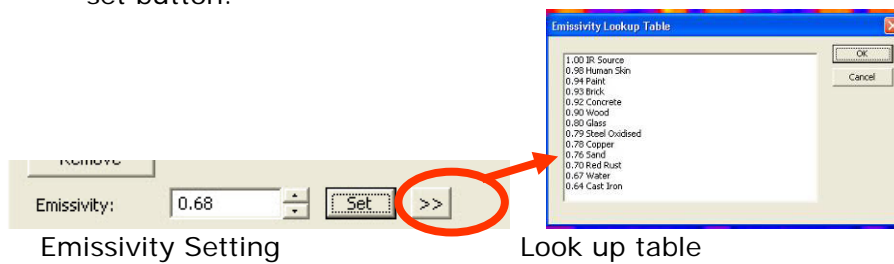
Settings tab

1. Units: ⁰C, ⁰F, K. Change using the arrow button.
2. Reflected Temp.: Change using the arrow buttons.
3. Global Emissivity: 0.01 to 1.00. Change using the arrow buttons or
   >> button. Access the emissivity look up table
4. Capture Time: Change if required using the arrow buttons.
5. Capture Date: Change if required using the arrow buttons.
6. Comments: Type in any comments in the box.
7. Caption Any text caption typed when saving the image will appear here.
8. Voice annotation Voice notes recorded when saving the image can be replayed via the play button. These can be heard from the PC's speakers.

3.4. Menus and Toolbars

Use either the drop down menus or the icons on the toolbar to carry out various operations.


Drop down menus
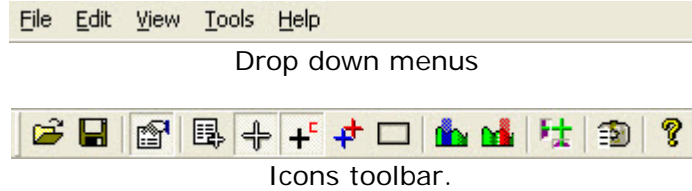
Icons toolbar.

File

Items 1 and 2 below are also available via the icons on the toolbar.

1. Open. Use Windows Explorer to open an image.
2. Save. To save changes to the image.
3. Save As. To save the image with a different file name.
4. Revert. To discard all changes since the last save.
5. Excel output. Selecting this provides the temperature values of all pixels in a CSV format allowing it to be saved as a file. This can then be read as an Excel spreadsheet. Note that the file must be opened from within the Excel application (not by "double-clicking" on the file) and selecting comma delimiters.
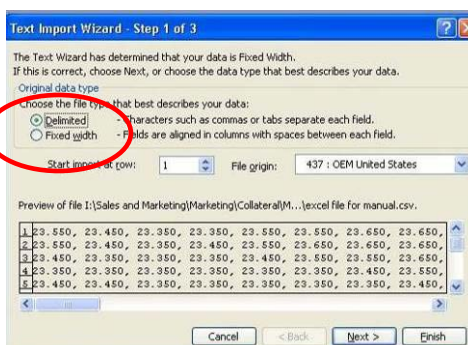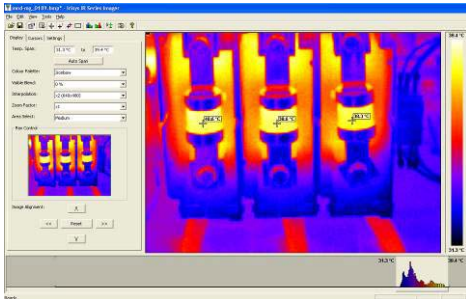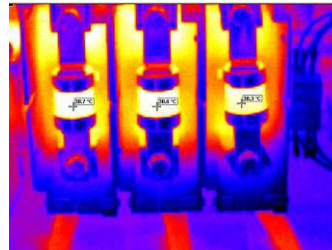
Edit

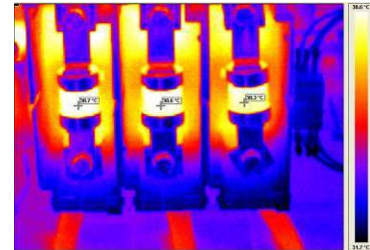1. Copy...
2. Copy To Bitmap...
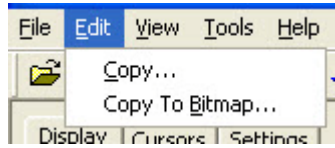
This offers the option to copy the image to the clipboard or to save as a bitmap. Both of these options will allow three choices - Full window, Snapshot or Snapshot+.

Full window.
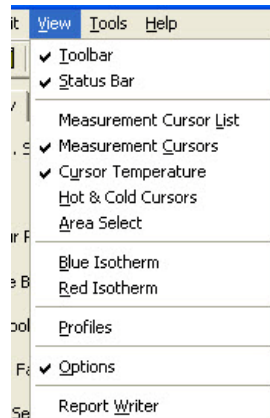Full window saves the complete window.

Snapshot.
Snapshot saves the image only.

Snapshot +.
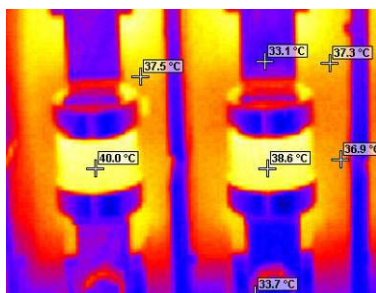Snapshot + saves the image and the colour temperature scale.

View

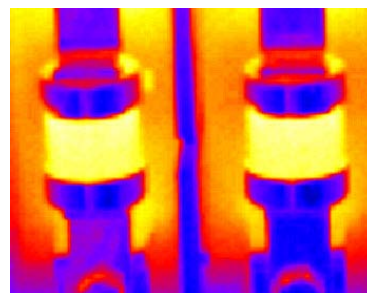Items 3 onwards are also available via the icons on the toolbar.

1. Toolbar. Turns on/off the icon toolbar.
2. Status Bar. Turns on/off the status bar at the bottom of the screen.
3. Measurement Cursors List. Toggles to show the temperature value and position of the selected cursors. The value of the hottest and coldest points in the image (see item 5 below) and the area box values (item 6 below).

4. Measurement Cursors. Toggles between displaying or removing the cursor/s on the image.
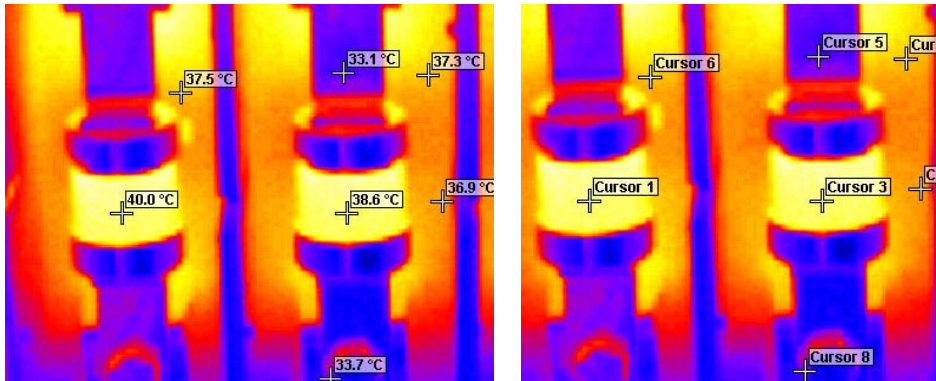

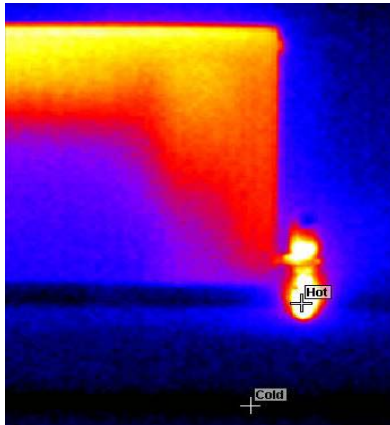**Cursors on image**   **No Cursors.**

5. Cursor Temperature. Toggles between displaying cursor/s with temperature values besides them or the cursor number.

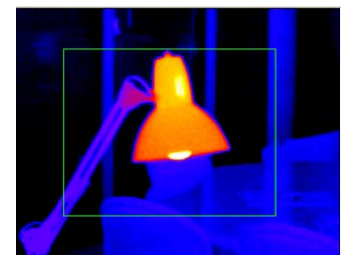6. Hot & Cold Cursors. Allows the display of the hottest and coldest point of the whole image.

7. Area Select. Selects an area in the middle of the image. The maximum, minimum and average temperatures of the area box are displayed in the cursor list (item 3 above). Three different area sizes are available (see page 8).
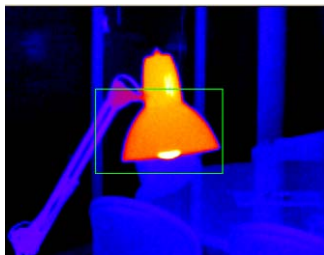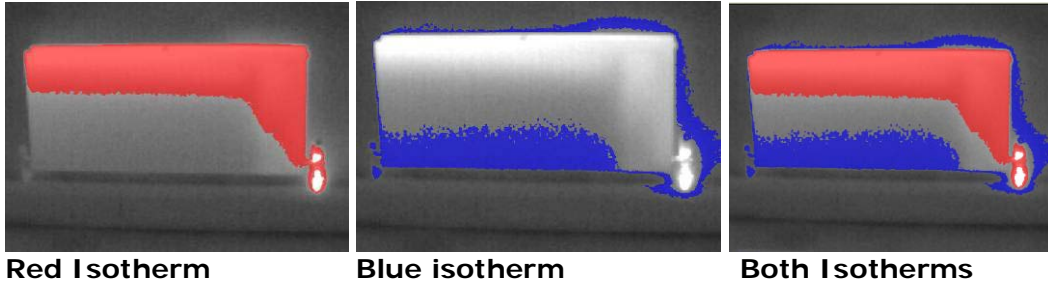

Small Area   Medium Area   Large Area
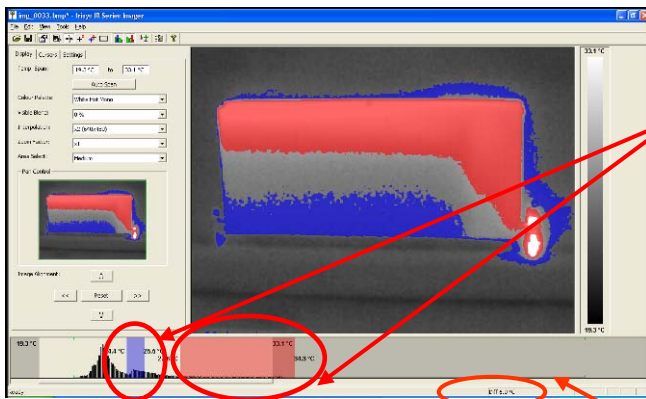
8. Blue Isotherm.
9. Red Isotherm.
   Isotherms are regions within the scene of the same temperature range and are shown in the same colour. This is best seen using either the white hot or Black hot colour schemes.

Red Isotherm   **Blue isotherm**   **Both Isotherms**


The red and blue isotherms can be set by adjusting the red and blue blocks in the level and span adjustment bar. This can be done using a mouse.

To adjust the isotherm width, click on the colour block edge and drag.

To adjust level click in the colour block and move.

The temperature difference between the centre of the two isotherms is displayed at the bottom.

10. Profiles. A temperature profile is a histogram showing the temperature values through a cross-section of the scene. The profiles are displayed as shown below. The cross-section lines can be moved by the user.
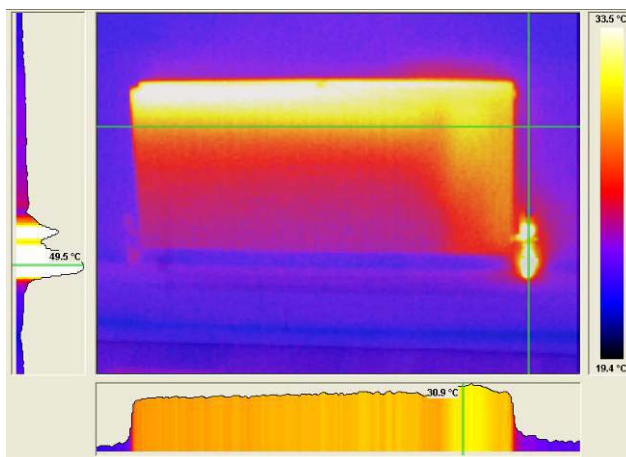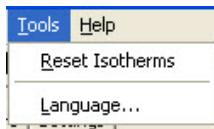
11. Options. Toggles to display the Tabs panel.
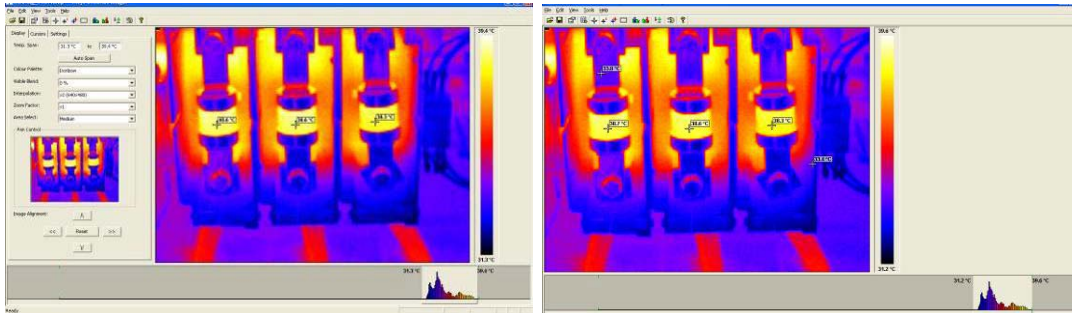
Options on – Tabs displayed   Option off

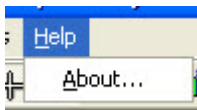12. Report Writer. This will toggle between the Analysis Mode and Report Writer Mode.

Tools

1. Reset Isotherms. Reset the isotherms to the default values.
2. Language. The following languages can be selected. Once a language is selected exit the IR series software and re-start it to activate the selection.
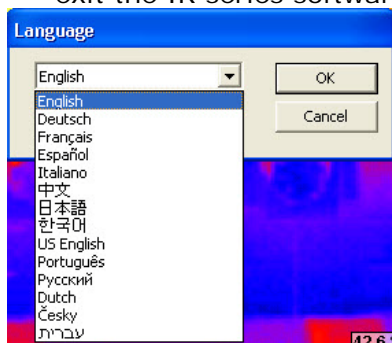
Help



About. Shows the software version.

4. Report Writer

It is possible to toggle between the ThermalVision™ 160 Analysis Mode and the Report Writer Mode from the drop down view menu or the toolbar.

There are three steps to create a report. There is a separate tab for each function.

1. Title page.   Enter details that should appear in the title page of the report.
2. Image select.   This allows the selection of the images needed for the report.
3. Inspection Data.   Information and additional data about each image can be added and then the report can be generated.
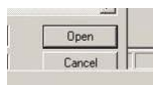
4.1. Title Page tab
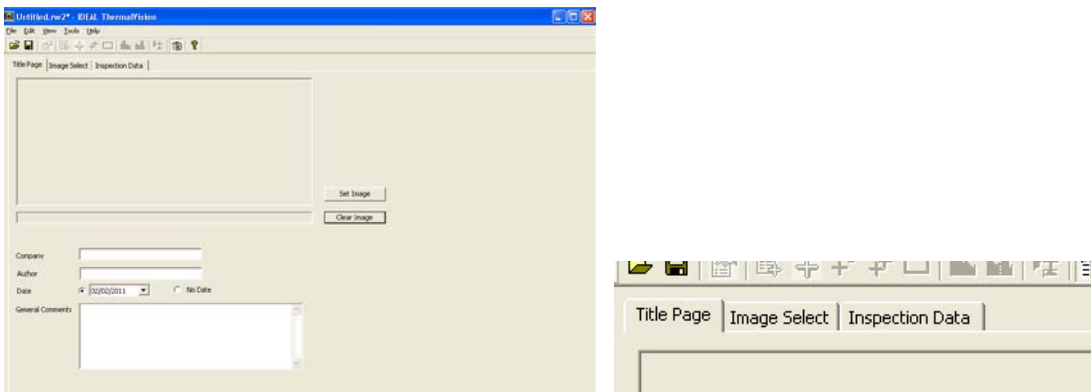
1. When the Report Writer Mode is opened the title page appears as shown above. There is an empty space where a logo or other image can be placed to appear on the front page of the final report.
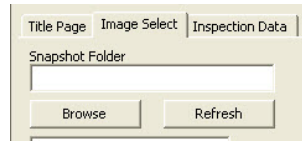
2. Press the select image button.

3. Windows Explorer can now be used to find an image.

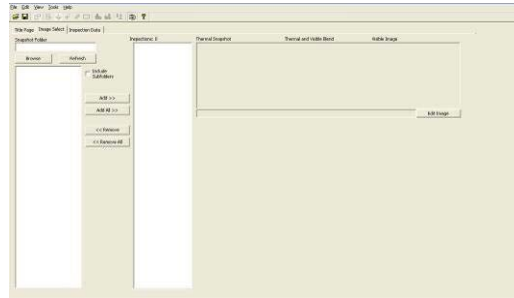4. Click on the open button to select and place an image or logo in the title page.

Enter the rest of the details required for the front page of the report.
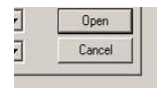
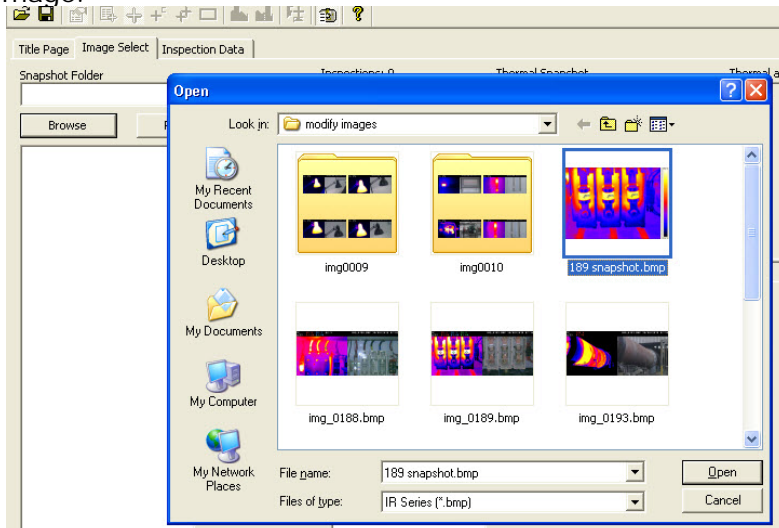## 4.2. Image select tab.

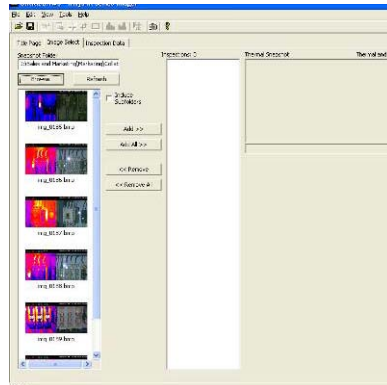1. The screen shown below appears.

2. Click on the browse button to open Windows Explorer.

3. Highlight an image and click on the open button, or simply double click on a IR series image.

4. All the Images in that folder will now appear in the browser selection on the left of the window.

5. Click on a selected image in the browser section and it appears in the image preview section on the right of the window.
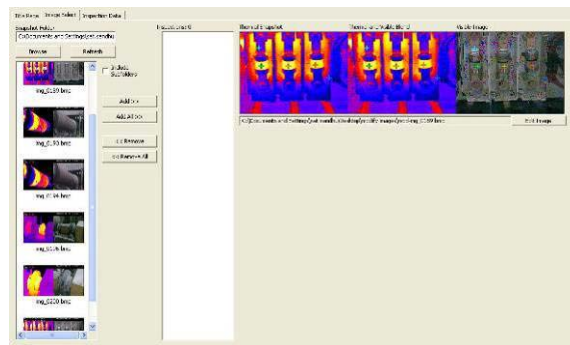
6. The add/add all remove/remove all buttons allow the selection and removal of images as required.

7. Selected Image/s will appear in the inspection section in the centre of the window.

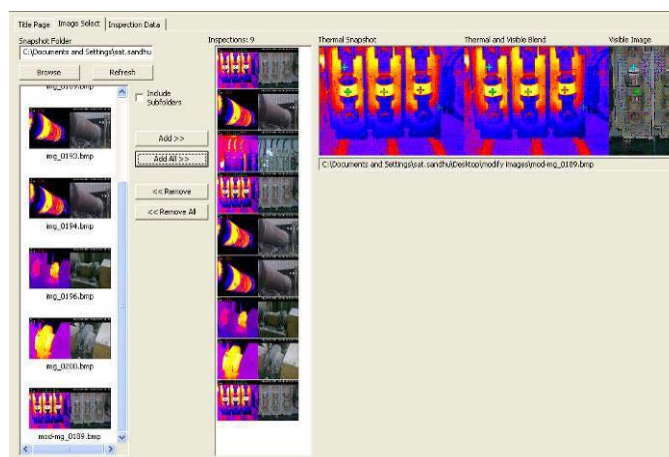8. Each image, when selected, may be edited by means of the "Edit Image" button. This switches to the Analysis Mode. When editing is complete, switch back to the Report Writer Mode by means of the "Toggle Report Writer" button.
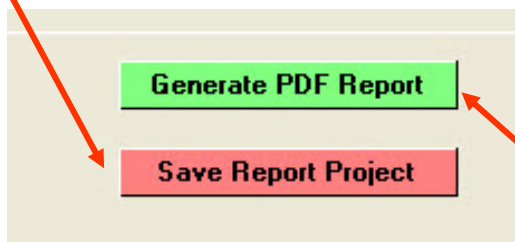
4.3. Inspection Data Tab

1. The inspection Data window will appear.

1. Complete and enter data as required for the report. The image can be edited if required by clicking on the edit image button.
2. Once data is entered press the Save Project Report button to save the full report. This allows the report to be edited later if required.

3. Press the Generate PDF Report button when ready to create the report.
4. A report is now generated and can be saved where required.

Warranty Statement:

Any implied warranties arising out of the sale of an IDEAL product, including but not limited warranties of merchantability and fitness for a particular purpose, are limited to the above. The manufacturer shall not be liable for loss or damage to computer equipment, peripheral equipment or other incidental or consequential damages, expenses, or economic loss, or for any claim or claims for such damage, expenses or economic loss.

Country laws vary, so the above limitations or exclusions may not apply to you. This warranty gives you specific legal rights, and you may also have other rights which vary from country to country.

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